Approved For Release 2001/04/02 : CIA-RDP78B04747A000600050011-9

6 April 1961

MEMORANDUM FOR: Chairman, Technical Development Board

THROUGH: Secretary, Technical Development Board

SUBJECT: Contract for Camera Calibrator

1. THE PROBLEM:

There is a need in the Technical Intelligence Branch for an auxiliary camera calibrator to accommodate cameras fitted with normal angle and telephoto lenses. The calibrator is required in order to comply with camera calibration requirements now being submitted by OCR/GR and DD/P.

2. ASSUMPTIONS:

a. That the OCR/GR requirement that we calibrate all their cameras [redacted] is not discontinued. 25X1A

b. That Case Officers from DD/P areas continue to submit cameras for calibration at the rate they have in the past.

c. That most cameras requiring calibration will be fitted with normal angle lenses and some cameras with telephoto.

3. PRESENTATION OF THE FACTS:

a. For normal angle lenses, the present camera calibrator in TIB will register sufficient points for focal length determination but an insufficient number to determine lens distortion.

b. For telephoto lenses, the present camera calibrator will permit the determination of neither focal length nor lens distortion.

c. The cameras received in TIB for calibration have normal angle lenses as standard equipment and on some occasions telephoto lenses are included.

Declass Review by NIMA/DOD

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4. DISCUSSION OF THE FACTS:

a. For the accurate determination of the lens distortion of normal angle lenses, it is desirable to have registered on the negative a minimum of five points per half radial. The present calibrator registers only two.

b. On telephoto systems, lens distortion is negligible and, therefore, unnecessary; however, focal length is extremely critical. On the present calibrator, there are no points registered on the half radial and, therefore, no solution whatsoever is possible. For focal length determination of telephoto lenses there must be at least one point per half radial.

c. Correction for lens distortion produced by normal angle lenses is necessary because of the following reason: In our past experience with normal angle lenses, we have discovered a focal length change between two zones on the negative equivalent to 0.4 mm. This in effect is an angular error of over 5 minutes of arc. This error is critical to many of our requirements.

5. CONCLUSIONS:

So long as cameras fitted with many types of lenses are received by PIC/CIA for calibration, it is necessary that the job be done correctly and furthermore, in order to do the work as expeditiously as possible, it is concluded that it is necessary to purchase a special calibrator as an auxiliary to the present calibrator.

25X1A 6. RECOMMENDATIONS:

It is recommended that a proposal be solicited from [redacted] 25X1A for an auxiliary camera calibrator especially designed to calibrate normal angle and telephoto lenses.

[redacted] 25X1A

Chief, TISD

25X1A NPIC/TISD/TIR [redacted] dr (2845)

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Legend	Qty.
◉ Center-cross and Resolution Patterns	45
• Center-cross Only	20
Total	65

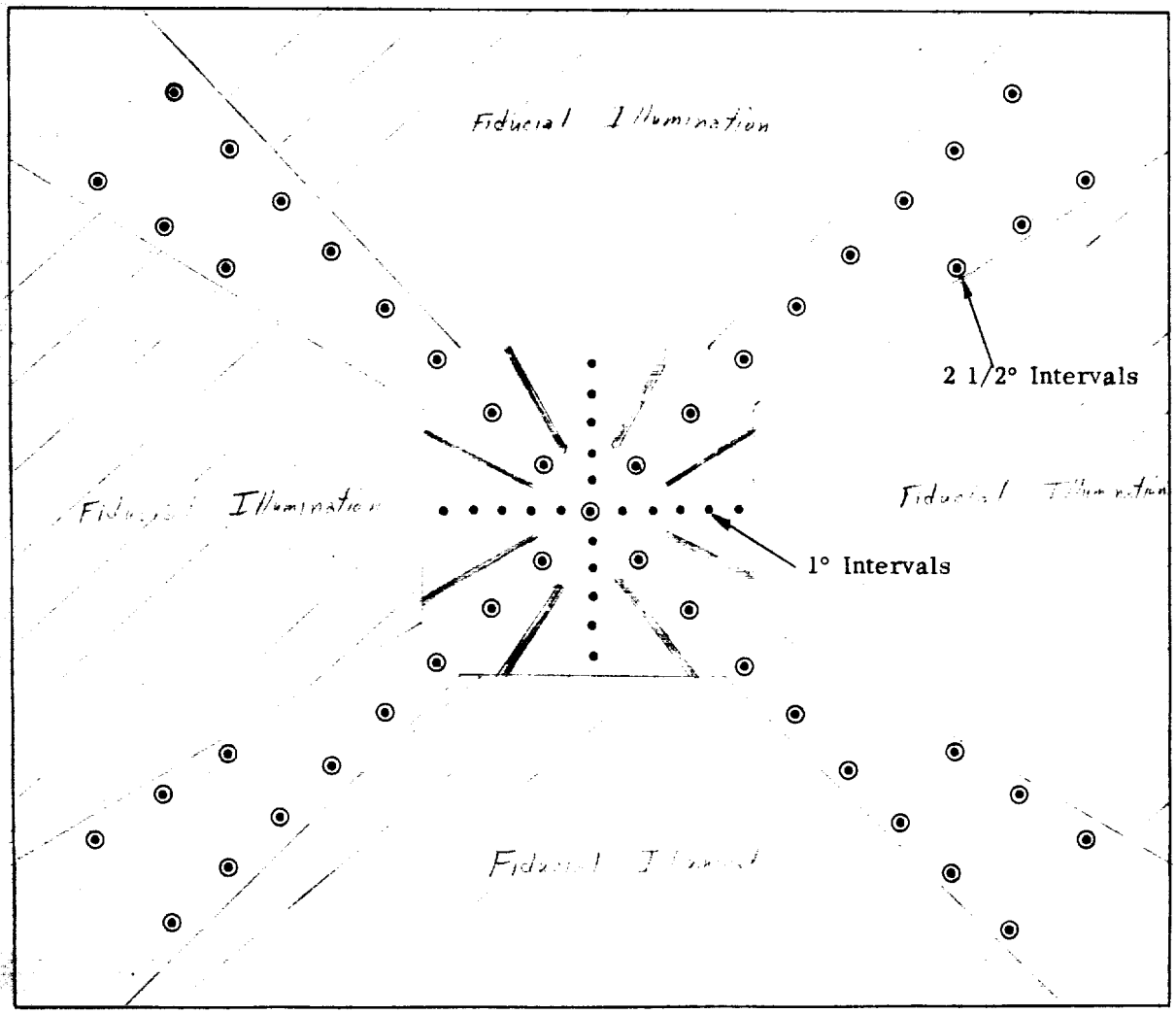

Figure 2. (Revised 14 December 1961). TARGET ARRAY (1/2 SCALE)